

ENVIRONMENT ONTARIO LEGACY

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WASTE RECOVERY

Municipalities' response slow

"We are disappointed with the somewhat slow response from the municipalities and their reluctance to come to grips with their pressing problems of waste disposal," Environment Minister George Kerr recently told the Ontario Sewer and Watermain Contractors Association in London.

"I firmly believe the province has found the right solution—that the use of land for waste disposal should be, and can be, substantially reduced through resource recovery programs."

"The role of the province is to provide leadership, research and feasibility studies and to help with the funding of resource recovery facilities. The responsibility for dealing with waste, its collection and disposal, rests with the municipalities."

Engineering Studies Completed

Mr. Kerr said Ontario has financed over the past four years a number of waste management studies to improve systems in 16 regions or counties of the province.

"We have completed engineering studies on the feasibility of constructing resource recovery plants for the cities and regions of Metro Toronto, Sudbury, Peel, Halton, Hamilton-Wentworth and Niagara, and are about to present such com-

pleted studies to London, Windsor, Kitchener-Waterloo and to municipalities in Eastern Ontario.

"Through the recovery of reusable materials and incineration of the residue garbage, we expect to reduce the land required for waste disposal by as much as 85 per cent," he stated.

Resource Recovery Laboratory

Mr. Kerr spoke of construction nearing completion of a full-scale experimental plant with the capability of testing existing or new processes for resource recovery. It will be a functioning laboratory, with both front-end and back-end processing capability, in which the Province, municipalities and industry can work together in developing new processes, products and ultimately markets.

To further encourage the development of resource recovery, the province is providing partial funding in demonstration projects. One of these is called the "watts from waste" project—providing fuel from waste to be used at the Lakeview Hydro generating plant to replace coal.

The other project entails the use of refuse-derived fuel in a cement kiln.

(continued on page 2)

At the Royal Winter Fair

Environment Ontario's Environment Arcade made its debut at the Royal Agricultural Winter Fair in Toronto. Six environmental quiz games fascinated thousands of children and adults. The Air Pollution Alert System (top left) shows how air pollution is controlled. The Noise Sonometer (bottom right) projects six familiar sounds and measures them in decibels on the sonometer scale. Gabbie, the talking garbage can, (bottom left) has been a favorite litter stop at many fairs.



James R. Swanborough, Q.C., 45, a Burlington lawyer, has succeeded I. W. Pasternak as chairman of Ontario's Pesticide Appeal Board. The Appeal Board reviews submissions in appeal to licensing decisions of Environment Ontario's Pesticide Control Branch.

Inside LEGACY

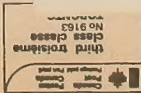
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The quill pen adds a flourish as Environment Minister George Kerr signs the experimental waste plant operating contract with Browning

Ferris vice-president Randall A. Bergeson (centre) and president Bruce Ranck. (story Page 2.)

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PLANT OPENINGS



Hornepayne Reeve C.D. MacLellan (centre) cuts the ribbon opening the Hornepayne Water Pollution Control Plant on October 19, 1976. Left to right are John Vesno, manager of Utility Operations for Environment Ontario's Northeastern Region and Keith Penner, federal member of parliament for Thunder Bay. The community's new sewage treatment plant was constructed by the Ontario Ministry of the Environment at a cost of \$5.4 million, \$3.9 million of which was provided by the Ontario Government.



W. J. Gibson, Assistant Director of Environment Ontario's Northeastern Region and manager of technical support for the region, at the formal opening ceremonies of the Chapleau Water Treatment Plant October 21, 1976, extended greetings from the Ministry. Regional Director Ralph Moore congratulated the officials and citizens of Chapleau on their new 1.2 million gallon per day, \$1.7 million water filtration plant. Also participating were Reeve Michael Morris of Chapleau, and Floyd Laughren, M.P.P., Nickel Belt riding.

Municipalities' response slow (continued from page 1)

Fuel for cement kiln

"We are just entering into an agreement with Canada Cement Lafarge Ltd. to provide fuel for cement production at the company's plant in Woodstock. Should the City of London undertake to build a resource recovery plant, the fuel for the Woodstock Cement Kiln could eventually be supplied by this city," Mr. Kerr reported.

"However, we are dealing with a relatively new and rapidly changing field in recycling resources from waste. We thereby recognize two inherent constraints — technology and markets. We cannot employ processes which have not been proven or yet developed to produce products for which we have no existing markets. We are therefore proceeding on a staged approach to the implementation of our resource recovery program — moving ahead as technology and markets are gradually developed.

"If we're to get on with the job of reducing the need for landfill sites for our garbage and of salvaging useful materials, we will require much more co-operation and initiative on behalf of our municipalities. The province has made a generous offer with respect to the construction of waste reclamation plants, but as the old saying goes: 'You can lead a horse to water, but you can't make it drink.'"

"The authority of my ministry is restricted to deciding whether

or not future landfill sites selected by the municipalities — and these are growing scarce indeed — should be approved after all possible problems and objections have been uncovered at a public hearing before an independent body, the Environmental Assessment Board.

"We know that there is a potential to recover energy from municipal waste and at the same time conserve fossil fuels. The question now arises: What about the economic feasibility? While

the rate of return on investment may be marginal for the private sector to invest the large amounts of capital required, we should keep in mind that there are certain economies of scale and, as the price of fossil fuels increases, the value of energy from solid waste also increases in direct proportion. The difference between the fuel value and the capital and operating costs of the system would have to be met by a disposal fee," he concluded.

NOTES

More noise pollution

Noise pollution complaints exceeded water and air pollution complaints combined," said Herb Cotter from Environment Ontario's Pollution Control Branch to a public meeting in Brockville. The meeting was held to discuss the province's model noise by-law designed to give guidance in developing legislation at the local level.

Etobicoke leads

Etobicoke is ahead of other Toronto boroughs in its recycling program according to Douglas Day, the borough's Deputy Works Commissioner. He attributed the success to public awareness of the need for recycling and careful arranging of trash collectors' schedules.

Face masks issued

Face masks have been issued to workers in a Georgetown Factory where two potentially harmful chemicals containing Mirex have been used. These chemicals, Dieldrin and Dieldrin Plus, are now being investigated by MOE and the Ministry of Health.

Waste plant

contract awarded

Ontario's Experimental Plant for Resource Recovery in Downsview will be operated by Browning Ferris Industries Ltd. of Toronto. The company has been awarded the \$1.8 million contract in competition with three other waste management firms.

"Operation of the transfer station — paper recovery facility is scheduled to get underway early in 1977 and we expect the operation company to begin full waste processing and resource recovery operations by June 1," said Environment Minister George Kerr in awarding the contract.

Browning Ferris Industries Ltd. has considerable experience in waste management. It serves 11 Canadian cities, and its US affiliate operates a major resources recovery facility in Houston, Texas.

The Downsview Plant is the world's most advanced solid waste processing plant and the key research centre for Ontario's long term waste management program for reclaiming as much as possible of the million tons of solid waste generated in Ontario every year.

Canadians speak in Sydney

Ten Canadian papers out of a total of 72 were presented at the International Association on Water Pollution Research Conference held recently in Sydney, Australia.

In addition the Canadian Committee of the IAEPW was active in the Association's executive planning. While the next IAEPW conference will be held in Stockholm in 1978, the 1980

conference will be held in Toronto.

Dr. C. P. Fisher, a senior scientist at the Canada Centre for Inland Waters, was re-elected vice-president of IAEPW and chairman of the Committee for Regional and Specialized Conferences. He is also chairman of the Toronto Host Committee.

The IAEPW attempts to liaise with all international bodies involved in various aspects of water pollution control. Some 600 delegates from 30 countries attended the Sydney meeting.

Termite control program grows

Encouraged by the success of the termite survey and control work done by Environment Ontario in East York, Scarborough, Kincardine, Guelph and Leamington, other municipalities are now negotiating an involvement in the program with the Ministry.

Initiated last April, the program furnishes grants covering 60 per cent of termite control costs up to a maximum of \$2,000 to Ontario residents with a termite problem. For preventive measures in vulnerable districts, grants covering 60 per cent of the costs of pre-treatment up to a maximum of \$1,000 are available. Any Ontario resident can apply for these grants through his local municipality.

"Our program has generated increased interest in termite problems," said Doug Wilson, supervisor of Environment Ontario's pesticides control section.

"Control of termites, once they inhabit a house, is not a job for an amateur."

Names of qualified exterminators certified by the Ministry are available from local municipalities and Environment Ontario Offices.

New Water Quality Board Chairman

IJC APPOINTS R.W. SLATER



The International Joint Commission has named Robert W. Slater as the new Canadian chairman of the Great Lakes Water Quality Board.

Dr. Slater, Regional Director of the Environmental Protection Service in Ontario, succeeds James P. Bruce, Director General of the Inland Water Directorate of EPS, as Chairman of the Board which acts as principal advisory council on water quality matters relating to the United States-Canada Agreement of 1972.

As Canadian Chairman of the Water Quality Board, Dr. Slater will work with the United States Chairman, George Reed Alexander, Administrator of the United States Environmental Protection Agency Region V, toward increasing the effectiveness of Agreement operations. One of his goals is more and better dialogue with the public and the media.

"Cleaning up the pollution of the Great Lakes is a big job," says Slater. "The public should know what the governments are doing. The Board is going to try to end people's confusion about whether they can drink, swim in, or eat fish from the Lakes while we work to improve water quality."

Dr. Slater, who holds his degrees from Imperial College in London, England, has been with the Department of the Environment since 1971. He is presently Co-Chairman of the Board of Review for the Canada/Ontario Agreement on Great Lakes Water Quality and is the author of more than 30 publications.

PROMISE AND PROBLEMS OF ONTARIO'S WASTE MANAGEMENT PROGRAM

Ontario's new resource recovery program was recently described to an international audience of waste management engineers assembled at the annual meeting of the American Public Works Association in Las Vegas, Nevada, by the Hon. George Kerr. He was the only Canadian invited to participate in a panel discussion on "Resource Recovery: Promise and Problems" sponsored by the Institute for Solid Wastes on September 29.

While in the United States, private contractors and industry have become increasingly responsible for waste management. Mr. Kerr explained, in Canada, waste management has traditionally been a municipal responsibility, and largely remains such.

However, in 1970, recognizing that proliferation of solid waste was getting out of hand, the Ontario Government moved into the solid waste field with the passage of The Waste Management Act, which was designed to make sanitary landfill disposal largely mandatory, and to generally establish improved

The role of the private industry

Province-wide standards for municipal and industrial waste disposal. This Act has since been absorbed into the regulations of Ontario's Environmental Protection Act, he explained.

"We in Canada have historically depended on one of our three levels of government to provide essential public services, especially utilities. We believe, however, that the private sector will have to play a much greater role in the solid waste management field. Just what sort of a mix of provincial, municipal and industrial responsibility will best suit our needs in Ontario has not yet become clear," he said.

"However, regardless of which sector is actually handling the job of waste management, we're all dealing with the same escalating problems created by our 'throwaway' society. Our diminishing resources and energy are literally being thrown into the garbage can. It is therefore important that we all join together in our efforts to find the most efficient and economic ways and means of resource recovery, and thereby benefit from each other's experience and expertise."

Mr. Kerr illustrated how our affluent society's generation of garbage was increasing per annum.

"In my own Province in 1974, municipal expenditures of \$70 million were reported for the management and disposal of municipal solid waste in the more heavily populated southern half of Ontario.

"An estimated 5 million tons were generated by a total

population of 7 million at a generation rate of 4 pounds of garbage per capita per day. Assuming an annual increase of 4 percent, solid waste would increase to 16 million tons in the next 20 years. This clearly illustrates the magnitude of the waste management problem we're facing in Ontario."

Different approaches

Mr. Kerr said that any solution to reduce this quantity of waste will require a number of different approaches which must be pursued in parallel to achieve success. He described these approaches in brief as:

1. A reduction in the quantity and types of material produced which are likely to result in waste.

"In Ontario, we've been having serious talks with the packaging, soft drink and other industries and groups in this regard. We have recently enacted legislation aimed at restoring wide-spread use of the refillable bottle by the soft drink industry."

2. Changes in the attitudes of producers and consumers to emphasize the conservation of materials and energy;

3. Separation of some elements of waste at source;

4. Central Resource Recovery plants;

5. Promotion of the use of reclaimed materials and the development of new uses and markets for these materials.

"We have a number of key elements in our program by which we hope to achieve the objectives of our waste recovery program. These elements are not separate measures, but complementary to our whole solid waste program."

Waste Management Advisory Board

"A representative group of private citizens was appointed in February, 1975 to serve as Ontario's Waste Management Advisory Board, to recommend policies for the reduction of waste and to assist in an advisory role in the management of waste and the development of resource recovery."

"The Board has played an important role in the formulation of our regulations governing the containers used by the soft drink industry, and is currently studying the milk industry and the liquor and wine industries with respect to throwaway packaging. We must reduce this costly waste."

"The Advisory Board is also examining soft drink containers with the vending machine industry to try to eliminate the sale of non-refillables."

"Derelict automobiles have been another problem, and an eyesore to the landscape. Thus two years ago we began a pro-

gram to provide financial assistance to municipalities to collect and arrange to have the hauls of these derelict vehicles recycled. Much of the reclamation cost has been regained through sale to the scrap dealer. Last year's program resulted in the reclamation of nearly 6,000 cars."

Resources recovery program

Mr. Kerr described some of the unique aspects of Ontario's new resource recovery program, which the Province is staging over a 15-year period at an expenditure of many millions of dollars.

"We estimate that when it is fully developed it can reduce our landfill needs by 80 per cent, meet the needs of all but the most thinly populated regions of Ontario and, as a major objective, reclaim priceless material and energy resources."

"We recognize two inherent constraints — technology and markets. We cannot employ processes which have not been proven or even developed to produce products for which we have no existing markets."

Full scale experiments

"Our Ministry is now nearing completion of a full-scale experimental plant with the capability of testing existing or new processes for resource recovery which appear feasible. It will be a functioning laboratory, with both front-end and back-end capability, in which the province, municipalities and industry can work together in developing new processes, products and

ultimately markets.

"This experimental plant, which will go on-stream early next year in Downsview, will be to our knowledge, the world's first fully instrumented and comprehensive research facility to process waste and produce hard data on which we can develop large-scale waste reclamation methods. It will provide a reliable supply of reclaimed materials for testing by industry. The plant will have a capacity of handling the hauls of a population of up to 300,000. It also will have a 600-ton per day direct transfer facility."

Mr. Kerr said that, equally important, this plant would provide information on cost efficiency, which is not now available.

"In all our planning in our resource recovery program, we have kept in mind the overriding requirement for flexibility since we're working in a relatively new field with technology that is continually changing."

"Waste is becoming an economic problem at the municipal level in addition to its environmental aspects. The most expensive part of waste disposal now is the collection process. In this respect, we are engaged in a study in Windsor, Ontario, to assess new types of container and collection systems which have potential for reducing collection costs."

Financing of studies

"Ontario has also financed over the past four years a number of area waste management studies to improve waste management systems in 16 regions or counties of the Province."

"We are encouraging the development of central processing facilities for the recovery of material and energy by providing a capital subsidy. It is our plan to finance and construct the plants, exclusive of land costs, and to recover 50 per cent of the capital cost over a 40-year period. As part of the resource recovery program, we are initially working with six

municipalities on basic front-end reclamation plants. I am confident that there are many more of these plants to come," he said.

Demonstration projects

To further encourage the development of resource recovery, the Province is providing partial funding in several demonstration projects.

"One of these is what we call our 'Watts from Waste' project — providing fuel from waste to be used at an Ontario Hydro generating plant (Lakeview) to replace coal. The other concerns the use of refuse-derived fuel in a cement kiln," Mr. Kerr explained.

When the "Watts from Waste" project goes on-stream, refuse-derived fuel will be used in only one boiler initially, replacing 10 to 15 per cent of the coal that is currently required. The initial boiler will use 130,000 tons of refuse-derived fuel per annum, processed from 210,000 tons of Metro-Toronto's garbage. This should result in a savings to the city of about \$800,000 per annum. The eventual processing of 420,000 tons of the city's waste at the hydro plant could result in a savings of about \$2.7 million, Mr. Kerr predicted.

Energy recovery potential

"We know that there is a potential to recover energy from municipal waste and at the same time conserve fossil fuels. The question now arises: what about the economic feasibility? While the rate of return on investment may be marginal for the private sector to invest the large amounts of capital required, we should keep in mind that there are certain economies of scale, and as the price of fossil fuels increases, the value of energy from solid waste also increases in direct proportion. The difference between the fuel value and the capital and operating costs of the system would have to be met by a disposal fee," he stated.

TRAINING AND CERTIFICATION COURSES

There has been a great demand for Courses and Workshops offered by the Training & Certification Section of the Ministry's Personnel Branch and most programs are filled to capacity. There are still vacancies on the following courses:

Acoustics Technology Level III — Jan. 24-28/77

Acoustics Technology Level IV — Feb. 28-Mar. 4/77

Acoustics Techn. in Land Use Planning — Apr. 25-29/77

Basic Water Treatment Course — April 18-22/77

Construction Inspectors Course No. 2 — Mar. 14-18/77

Industrial Abatement — Air Mgt. I — May 9-13/77

Industrial Abatement — Air Mgt. III — Jan. 10-14/77

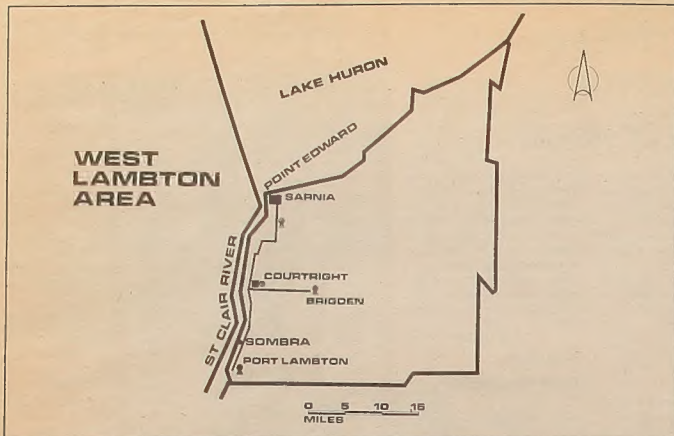
Maintenance Gas Fitters — Jan 31-Feb. 4/77

Primary Treatment & Digestion — May 9-16/77

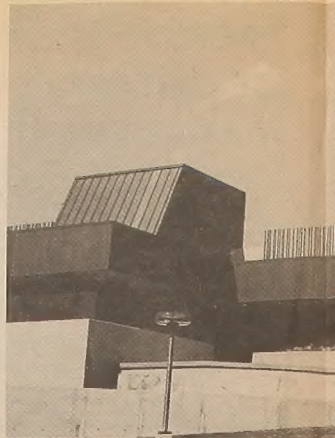
Pump Operation Workshop — May 2-6, 1977

Visible Emission Identification

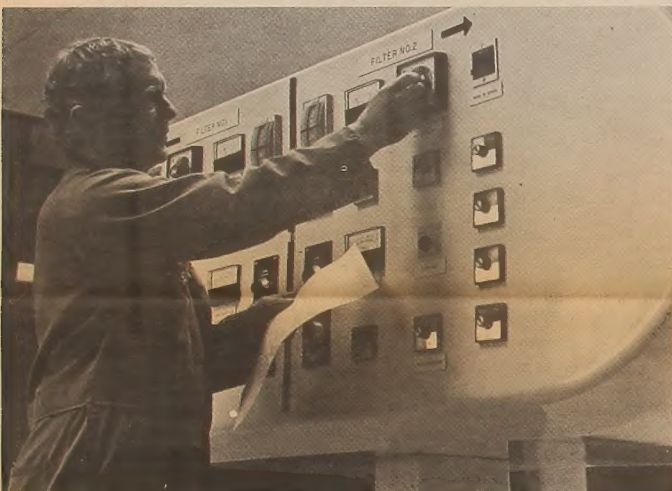
For further information call Angie de Leon, Tel. 965-1027



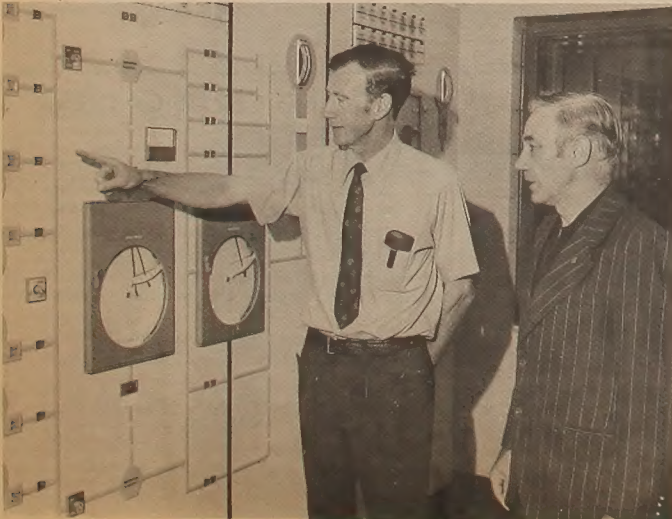
The plant serves an area reaching from Sarnia to Port Lambton.



The Lambton Area Water Treatment Plant is the newest



Warwick Bond checks one of the control consoles in the filter gallery.



Mr. Horsburgh and Cassey Reyneker, chief operator (right) can see exactly what is going on in all sections of the plant by a glance at the main control panel.

LAMBTON FEATURE

The Lambton Area Water Treatment Plant is the first medium sized plant in the province to use high rate direct filtration, was announced by the Hon. George S. Williams, Ontario's Minister of the Environment.

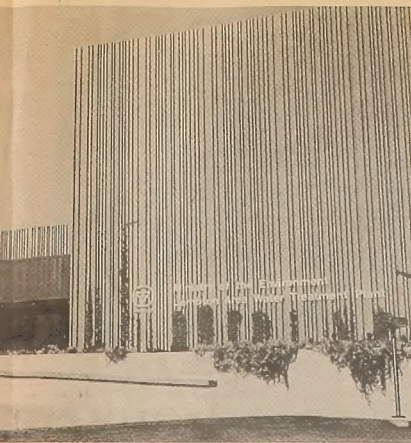
The new facility will serve approximately 100,000 living in the area from Sarnia to Port Lambton. It is an expansion of capacity to provide a water supply to an estimated 165,000 in 1993.

An extension of the area's water supply system is now under way. On completion it will serve the area south to Port Lambton.

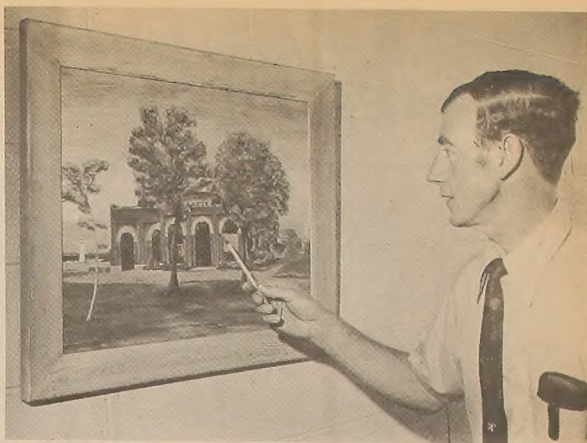
The total cost of the plant is estimated at \$28.5 million. Provincial subsidies will cover a million of the final cost and the Federal and Mortgage Corporation have agreed to contribute for the Courtright to Port Lambton section. A new agreement with the Province of Ontario for treatment facilities. \$214,000 of the cost is forgivable. The entire system is owned by the Province and is operated by Environment Canada.

The Lambton Plant is located on the north bank of the St. Clair river. The water is drawn from the river by a 66-inch intake pipe, which extends into the river to a depth of 50 feet. It draws water at a rate of 40 million gallons a day. Intake capacity can be increased as part of an expansion to 100,000 million gallons a day.

The water is led through a sp



est one of 400 plants owned or operated by Environment Ontario.



Plant superintendent James Horsburgh explains the first water treatment plant in Sarnia shown on the oil painting.

ON AREA WATER TREATMENT PLANT ES HIGH RATE DIRECT FILTRATION

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a special filtering and

collection system at a rate of five gallons per minute per square foot, or two and a half times the amount usually processed in a plant of such size.

Two types of filtering are used at the plant — a mixed media and a dual media filter system. Both are basically sand filters. Two systems have been installed to allow comparison in plant operation and to provide research information for future expansion. Each filter has an area of approximately 700 square feet and can clean a daily flow of four million gallons of water. The output is measured by magnetic flow meters.

To offset the limited storage capacity of the system, six high lift pumps have been installed with a maximum capacity of 64 million gallons per day — a capacity designed to meet the 64 million gallon per day demand expected in 1983. Should the two largest pumps fail, the system will still deliver 54 million gallons of water per day, an amount sufficient to satisfy domestic and fire fighting needs.

A stand-by 1000 horsepower diesel generator will take over automatically if the power supply fails.

The Lambton plant is located on a 13-acre site. The plant and the reservoir occupy approximately seven acres. The larger part of the site has been re-landscaped to provide a park for the people in the area. The 15 million gallons reservoir is completely underground.

The Lambton Water Treatment Plant was designed and its construction was supervised by

M. M. Dillon, Ltd., Toronto, consulting engineers. The trunk watermain was designed and constructed by Catalytic Engineering of Canada Ltd., Sarnia. Prime contractor on the plant was Collavino Brothers Construction Co., Ltd., Windsor.



Environment Minister George A. Kerr signs the plant guest book with James Horsburgh.

"DEAR EARTH PEOPLE, WE ARE LEAVING..."



After viewing films on litter and looking about their schoolyard, the Grade Two class at Ridgeway Public School in Ridgeway, Ontario pretended they were people from outer space and wrote a group story

"Dear Earth People,

We came to visit your planet last night. We have decided not to stay. We are leaving because there is so much litter on your planet. You are careless and do not care for your world.

We would like to help you help yourself. Here are our ideas.

1. Clean up the litter that is there now.
 2. Put your litter in a garbage pail from now on.
 3. If there is no garbage pail, take your litter home and put it in the pail at home.
 4. Put pop in bottles and a refund should be given for the bottles. "Who throws away money?"
 5. Take your other old bottles to the FEET (Fort Erie Ecology Team) Van beside Canadian Tire in Fort Erie. They take bottles for recycling.
- Your world could be beautiful. Please CLEAN IT UP. KEEP IT CLEAN. We want to return."

Good-bye,
from the Space Visitors
on Ship 15.

CAFETERIA CRISIS

In this activity, students learn about their school cafeteria as it relates to the issues of solid waste. It involves a tour of the cafeteria, talking with the personnel, working in it, or any combination of these and can be conducted in a class period. No equipment is needed, and grades two through 12 can be included. The construction of a flow chart may be encouraged.

Questions

1. To lead into the activity, ask:
 - a. Do people in industrial roles think differently about wastes than we do?
 - b. How is the school cafeteria an industrial operation?
 - c. Is solid waste a problem?
2. To initiate the activity, ask:
 - a. What types of input are there into the kitchen daily?
 - b. How are these packaged differently from those we purchase for individual use?
 - c. How do the products change as they go through the cafeteria?
 - d. What kinds of waste are produced by the cafeteria?

- e. What kinds of waste are produced by those who use the cafeteria?
 - f. Are all the wastes produced visible?
3. To continue the activity, ask:
 - a. How are these wastes categorized?
 - b. What happens to each category?
 - c. What is the status of composting?
 - d. Are your ideas about wastefulness the same as those of the people in the kitchen?

4. To expand the activity, ask:
 - a. What types of sanitary laws govern the operations of a commercial kitchen?
 - b. Do these conflict with "wastefulness"?
 - c. Can you suggest any remedial action to any undesirable situations?
 - d. How would these suggestions be received?
 - e. Do people see the cafeteria as a solid waste disposal problem?
 - f. Could we let people know what happens behind the scenes?
 - g. What other establishments in the community might have similar problems?

5. To evaluate the students' efforts, ask:

- a. What information did they find?
- b. How well did they perform their investigations?

(This fact sheet is adapted from an activity outlined in the publication **Solid Wastes and Environmental Studies** produced by the Institute of Environmental Education, 8911 Euclid Avenue, Cleveland, Ohio.)



Jane Thomas, former editor of *Impact and Legacy*, is now the Ministry's educational resources co-ordinator. Her main activity is working with teachers to design lesson plans, environmental programs and workshops. The tools of her trade range through the *Envirovan*, a specially outfitted educational vehicle, and audio-visual materials to furry hand-puppets.

OTF workshop - just great!

It was outdoor education at its best. Multiple sessions crammed with relevant information. Eager participants and enthusiastic resource people. A sharing of ideas and a unity of purpose.

Sponsored by the Ontario Teachers' Federation (OTF), the week-long workshop attracted 26 teachers and principals from elementary and secondary schools around the province. The Kingfisher Lake Outdoor Education School near Thunder Bay provided an ideal setting with its acres of woods and surrounding lakes. Despite the cool October weather the participants cooked all their meals over open fires and spent most of the time out-of-doors.

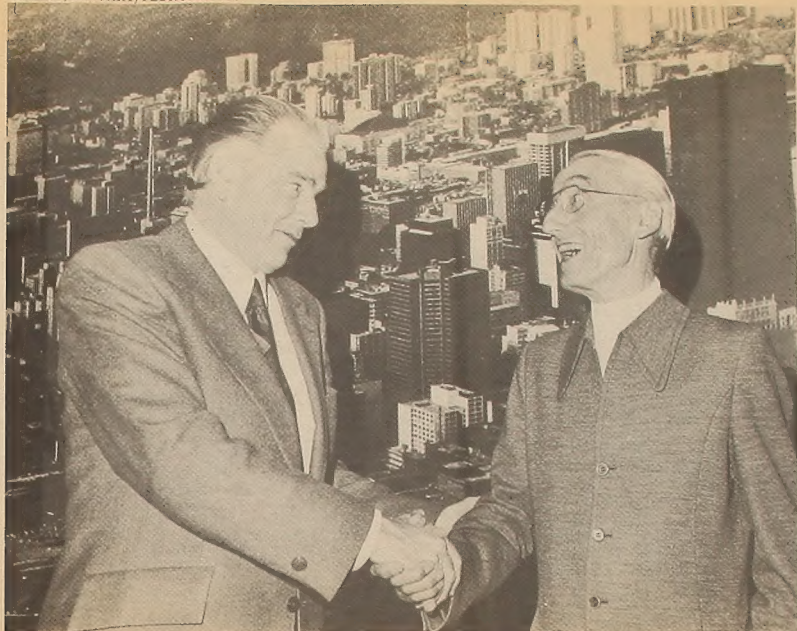
Activities ranged from pond, beaver, tree and bird studies to the utilization of a playground or a city park for studying the environment. Orienteering, a fun sport, appli-

cable to mathematics, geography and science was very popular both on land and on the water. An emergency first aid course rounded off the sessions.

It is very seldom that such an opportunity is provided to teacher — a chance to meet others carrying out the same work but in completely different surroundings. Their students will surely benefit from this 'north meets south' idea exchange.

Much of the credit for the conference must go to the organizer, Gordon Chartres of Balsam Street School in Thunder Bay and to the Kingfisher staff, Lori Jarvis and Henry Kuppinen. The teaching skills and enthusiasms of these people and the other members of the resource team made the workshop exciting as well as memorable.

So pat yourself on the back OTF, and when do you plan to do it again?



Jacques Cousteau enlivens environmental study

Environment Minister George A. Kerr (left) introduces Captain Jacques-Yves Cousteau, keynote speaker of the Man-Environment Impact Conference held in Toronto on November 24-27, as a man who has focused his dreams on our planet and on man's impact on the environment.

The Man-Environment Impact Conference was attended by more than 4000 people. Five Ontario education associations joined to stage this conference on environmental education. Environment Ontario made a presentation in resources recovery as part of the conference program.



Chief operators meet in Toronto

The thirteenth annual Chief Operators Conference took place in Toronto in late September with 120 chief operators and supervisors of the water and sewage treatment systems in attendance.

This conference was started by the Ontario Water Resources Commission in 1963. It gives the operators, superintendents and other MOE officials a chance to discuss problems, exchange ideas and meet new faces.

Pete Fowler, Superintendent of the South Peel Water System, has been the chairman of the conference for the past two years. He is responsible for making the conference arrangements along with a representative from each of the Ministry's regions.

"We change the program each year to gear it to the needs of the present in all aspects of treatment operation," said Pete. "For instance, this year, instead of conducting a tour of a plant, which has been done many times in the past, we had an equipment show. It gave the operators a chance to discover what new equipment was available for their systems and what company manufactured them. Everyone seemed to think it was very beneficial."

"One of the biggest changes we've made in the past few years is to invite the wives to the conference. We feel it is important that the women have a chance to get more involved with their husbands work. Besides, it provides for a lot more fun at the conference. Now, we can have a dance after the main banquet."

Next year's conference will take place in London.

Great Lakes report released

The Report of the Great Lakes Basin Framework Study, a 27 volume investigation of water and land resources in an 8-state area, was recently released by the Great Lakes Basin Commission. Seven and a half years in the making the study surveys the available water-related resources and attempts to identify resource needs and problems Great Lakes Basin residents will face in the next 50 years.

The Report includes recommendations on such varieties of topics as: energy, navigation, lake levels, mineral deposit, coastal zone management, agricultural and forest land treatment, fish and wildlife, shoreline and streambank erosion and flooding.

New pollution controls



Imperial Oil's Environmental Co-ordinator Gus Schindel (left) and Environmental Officer Glen Grosse of MOE discuss the tall column of an improved sour water stripper, designed to remove most of the hydrogen sulphide and ammonia from waste water.

INCO completes wastewater system

Two new industrial waste water treatment plants in the Copper Cliff and Nolin Creek watersheds have provided some significant improvements in local water quality. Environment Minister George Kerr said in October.

Mr. Kerr, opening the new Inco Ltd. facilities near Sudbury, described them as "the tip of an iceberg — the most visible part of a \$36 million environmental program which has cleaned up some problems and provided for the sound development of a new tailings area which will serve the company well into the next century."

Water recycled

It took six years of discussion and development to complete the new treatment facilities, according to John McCreedy, senior vice-president of Inco Ltd. In the completed system, 87 per cent of the water used in Inco's Ontario division facilities is recycled and the two new plants treat the remaining water before discharge to the water sources as well as surface runoff.

Mr. Kerr said the system should provide a major step toward a better environment in the Sudbury area with a significant reduction expected in the discharge of suspended solids and heavy metals from Inco operations.

Mr. Kerr reviewed Inco's development and the growth of pollution control in the Sudbury area:

"This is one of the centres where in Ontario learned the basics — in water management, in waste management and, possibly even more significantly, in air management."

He said that at its worst, Inco poured out one and a half per cent of the world's total supply of airborne sulphur dioxide. Steps in air pollution control were taken as early as the 1930s and the control program is continuing.

The Ministry and Inco are reviewing future air pollution control programs.

Pollution control, on the scale it is applied in a massive complex such as Inco's Sudbury area works, involves a substantial investment, Mr. Kerr said. He dismissed the myth that environmental concern is not compatible with economic growth.

"Believe me, any practical environmentalist has to have a sincere interest in the economic health of industry."

Derelict mines

As an example, he cited a number of derelict mining operations in Northern Ontario which are now being studied and cleaned up by the Ministry.

"Mining companies that go broke and disappear aren't available to foot the bill for environmental protection and restoration resulting from their operations."

He noted that short and long-term market prospects are bright for the nickel industry and may lead to some expansion in the future. He urged Inco to take advantage of Ontario's new environmental assessment process in planning any expansion and to use all the resources available from government and from the community in making developments which are socially, economically and environmentally.



Inco's new Copper Cliff industrial water treatment plant treats wastewater before it is returned to Copper Cliff Creek.

Environmental Assessment Act involves everyone

The new Environmental Assessment Act, effective October 20, 1976, gives the Ontario public a voice in the planning of major government projects and developments in the Province, provides for the availability of full information on all assessed projects and a new, more effective approach to environmentally sound planning.

"Instead of fearing the unknown, people can now ask questions, make comments and contribute to the development of projects undertaken in Ontario," said Environment Minister George Kerr in announcing the Act.

Based on Green Paper

The Environmental Assessment Act itself is based on the discussions originated by the Green Paper on Environmental Assessment published in 1973 and extensive studies of similar legislation in other jurisdictions. By thorough investigation, review of environmental aspects of major projects, including economic, social and cultural considerations, at the time of planning, the Act should ensure that:

- Costs of a later clean-up are avoided.
- Alternative approaches to solutions of environmental projects are considered.
- New channels of communication are opened between the public and governmental planners.
- Social, economical, technical and cultural aspects of such projects are fully considered.

For all major undertakings

The Act will ultimately be applied to all major governmental, business and commercial activities, plans, programs and projects. The persons or organizations planning such undertakings are made responsible for the full assessment of the impact the undertaking would have on the environment, and for the preparation of an Environmental Assessment Document.

This Document should include the following information:

- The purpose of the undertaking.
- Alternatives to the project.
- A description of the environment that could be affected.
- A description of the nature of these effects.
- A description of the means available for the mitigation of these effects.

- An evaluation of the advantages and disadvantages of the project.

The Act provides that the environmental impact of all public projects be assessed unless they are exempt by Order or Regulation. For private projects the Act would apply only to projects designated under the Regulations. If the private project is not specifically designated, the Act does not apply.

Projects can be assessed as individual or class undertakings. Individual assessments are likely to be carried out for large scale undertakings that may have a significant environmental impact — such as steel mills, generator stations and new highways.

Class assessments will tend to involve groups or classes of smaller projects with similar characteristics and similar influence on the environment. Examples are commuter bus stations, small hydro transformers, etc.

Undertakings subject to class assessment involve groups or classes of smaller projects with similar characteristics and similar influence on the environment. Examples are commuter bus stations, small hydro transformers, etc.

Involvement of public

"Initially the Act applies fully to Ontario Government projects only," Mr. Kerr said. "As experience is gained and procedures are refined, municipal and private undertakings will also be brought under the Act."

Mr. Kerr said the public should be involved in the planning and assessment process as early as possible. "This will help in the evaluation of the social, economic and cultural effects of any project and resolve some potential conflicts before the assessment completes the review stages."

The Ministry of the Environment will review the Document with the co-operation of other Government ministries and agencies. The Environmental Assessment Document and the government review will be available for public scrutiny.

Open to inspection

For at least 30 days after public notification, any person may inspect the Environmental Assessment Document and the Ministry's review. Both will be available through the Ministry's headquarters and its regional offices.

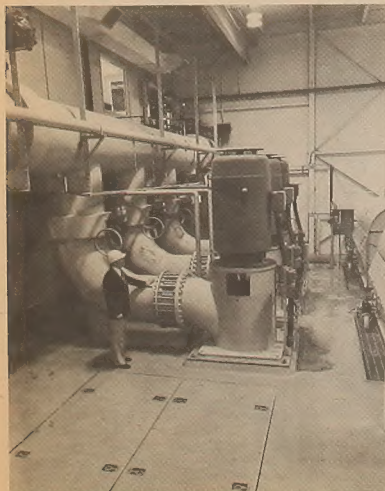
Any person may at this stage make submissions to the Minister regarding the project, the assessment or the review. The submissions may also include a request for a hearing by the Environmental Assessment Board.

At this stage, if no hearing is required, the assessment document may be approved or amended by the Minister or further research may be requested. Once the assessment is accepted in final form, the project can then be approved or approved with conditions or rejected.

If hearings by the Assessment Board are not required, the project can be approved by the Minister of the Environment with Cabinet approval. If hearings are held, the Board deals with both the acceptance of the assessment and the approval, conditional approval or rejection of the project.

The Provincial Cabinet may, within 28 days of the Board's decision, vary this decision, substitute its own decision or require a new hearing.

"Environmental assessment has been established by the Act as a new and important planning tool," Mr. Kerr said. "Its task is to assure that individual projects and programs are planned and implemented in a way that ensures their least possible negative effect on the environment."



Three 15,000 gallon pumps deliver water to the clarifier tanks at the Copper Cliff water treatment plant. Lime is added to adjust the pH and polyelectrolyte is added to induce precipitation of suspended solids.



Ministry of the Environment
Ontario

Hon. George A. Kerr
Minister
Everett Biggs,
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